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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,283	03/12/2004	John G. Quinn	A42122	7209
25946 7590 05/29/2007 SENSATA TECHNOLOGIES, INC. 529 PLEASANT STREET, MS B-1 ATTLEBORO, MA 02703			EXAMINER LEE, CLOUD K	
			ART UNIT 3753	PAPER NUMBER
			MAIL DATE 05/29/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/799,283

Applicant(s)

QUINN ET AL.

Examiner

Cloud K. Lee

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4 and 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is vague and indefinite as to the metes and bounds of claims 4 and 7-9. For example, claim 4 appears to recite holding a tolerance upon repeated use, however, applicant does describe details of the sealing condition, sufficiently to understand what structural feature would meet this limitation. It would appear that any structure that meets claims 1 and 3 would meet the limitations in claim 4 under certain conditions.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 10-11 (as understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivarsson et al (US Patent No. 5,313,264) in view of Nishizawa et al (US Patent No. 4,903,938).

Ivarsson et al disclose a microfluidic structure, comprising: (a) a first body (85) which has a first planar surface that contains at least one recessed area (11A-11D) to define at least one microfluidic channel, and (b) a second body which has a second planar surface which is a sensing surface (7), wherein said first surface and said second surface are in contact (see figure 1); (c) whereby at least one microfluidic sensor channel is formed (11A-11D), wherein either the first body or the second body contains at least one pair of inlet/outlet holes (106 and see figures 1A and 1B) to allow for a sample to enter and exit said at least one microfluidic channel and contact said sensing surface, wherein the contact of said first surface and said second surface of (c) of claim 1 is reversible (see figure 1), wherein there are a plurality of microfluidic channels (see figure 1), wherein there are three microfluidic channels with each channel roughly 300 .mu.m wide, 5 mm long, and 30 .mu.m high (see claim 18). Ivarsson et al fail to disclose the first planar surface having a surface roughness of less than 0.5 .mu.m.

Nishizawa et al disclose a surface has a surface roughness of less than 0.5 .mu.m (see Col 4 lines 4-11) in a similar microvalve. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a surface roughness of less than 0.5 .mu.m in order to minimize leakage and as taught by Nishizawa et al (see Col 4 lines 20-24).

5. Claims 13 and 15 (as understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivarsson et al (US Patent No. 5,313,264) in view of Hughes (US Patent No. 5,844,036) and Custom Cutting Technologies, Inc. "PEEK ALL" materials physical properties table.

Ivarsson et al fail to disclose the first body being made of carbon-filled PEEK at the first surface.

Hughes discloses a carbon-filled PEEK (see Col 2 lines 15-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the first body with 30% carbon-filled PEEK at the first surface in order to provide an excellent chemical resistance, very low moisture absorption, good wear and abrasion resistance to the first surface. Regarding the limitation "a hardness of at least D50", this material has a hardness of D86 (see Custom Cutting Technologies, Inc. "PEEK ALL" materials physical properties table).

6. Claims 4-9 (as understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivarsson et al (US Patent No. 5,313,264) in view of Nishizawa et al (US Patent No. 4,903,938) as applied to claim 1 above, and further in view of Hughes (US Patent No. 5,844,036) and Custom Cutting Technologies, Inc. "PEEK ALL" materials physical properties table.

The modified Ivarsson et al fail to disclose the first body being made of carbon-filled PEEK at the first surface.

Hughes discloses a carbon-filled PEEK (see Col 2 lines 15-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the first body with 30% carbon-filled PEEK at the first surface in order to provide an excellent chemical resistance, very low moisture absorption, good wear and abrasion resistance to the first surface.

Claims 4, 7-9, the dimensions of a tolerance, the hardness and the material absorbability are interpreted broadly as the physical properties of a material, in this case, a 30% carbon-filled

PEEK. However, the physical properties are inherently disclosed by 30% carbon-filled PEEK.

Therefore, Hughes meets the claimed limitations (see Custom Cutting Technologies, Inc. "PEEK ALL" materials physical properties table).

7. Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Ivarsson et al (US Patent No. 5,313,264) in view of Hughes (US Patent No. 5,844,036) and Custom Cutting Technologies, Inc. "PEEK ALL" materials physical properties table as applied to claim 13 above, and further in view of Nishizawa et al (US Patent No. 4,903,938).

The modified Ivarsson et al fail to disclose the first planar surface has a surface roughness of less than 0.5 μm .

Nishizawa et al disclose a surface has a surface roughness of less than 0.5 μm (see Col 4 lines 4-11). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a surface has a surface roughness of less than 0.5 μm in order to minimum leakage and minute flow control as taught by Nishizawa et al (see Col 4 lines 20-24).

Conclusion


8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sjolander et al (US Patent No. 6,698,454) disclose a similar device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cloud K. Lee whose telephone number is (571)272-7206. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571)272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CL


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